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A STUDY OF METHODS DESIGNED TO IMPROVE THE RELATIONSHIP BETWEEN PARENTS' ATTITUDES AND THE UNDERACHIEVEMENT OF THEIR ELEMENTARY SCHOOL CHILDREN.

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THIS STUDY WAS DESIGNED TO TEST THE DIFFERENTIAL EFFECTIVENESS AND INTERACTION EFFECTS OF SEVERAL METHODS DESIGNED TO IMPROVE THE RELATIONSHIP BETWEEN PARENTS' ATTITUDES AND THE UNDERACHIEVEMENT OF THEIR ELEMENTARY SCHOOL CHILDREN. THE INVESTIGATION ALSO ATTEMPTED TO EXTEND AN EARLIER STUDY ON THE EFFECTS BROUGHT ABOUT IN CHILDREN BY EMPHASIZING PSYCHOLOGICAL CHANGES IN PARENTS. TWO GROUPS OF PROBABLE UNDERACHIEVING STUDENTS WHO WERE SOON TO BE FOURTH GRADERS WERE IDENTIFIED. THE MOTHERS OF THESE CHILDREN WERE THEN ASKED TO AN ORIENTATION MEETING, AND A SELF-ANALYSIS FORM WAS ADMINISTERED TO THOSE MOTHERS WHO RETURNED TO THE SECOND MEETING. THE SCORES WERE RANK-ORDERED AND THE MOTHERS ASSIGNED TO ONE OF THREE GROUPS ACCORDING TO ANXIETY LEVEL. AN INTERPERSONAL CHECK LIST WAS ALSO ADMINISTERED, WHERE THE MOTHERS SORTED ON SELF, SPOUSE, CHILD, AND SELF-IDEAL. AFTER 11 SESSIONS IN THREE EXPERIMENTAL GROUPS WHICH EITHER EMPHASIZED GROUP DYNAMICS, GROUP GUIDANCE, OR A COMBINATION OF BOTH, THE MOTHERS WERE RETESTED. THE CHILDREN WERE RETESTED ALSO TO DETERMINE IF BENEFITS ACCRUING TO THE MOTHERS FROM THEIR GROUP EXPERIENCES HAD BECOME MANIFEST IN THE CHILDREN. ALTHOUGH THERE WERE CHANGES IN ACADEMIC PERFORMANCE IN THE DIRECTION PREDICTED, THE STUDY COULD NOT DETERMINE THE DIFFERENTIAL EFFECTIVENESS OF THE GROUP METHODS USED TO INVOLVE THE MOTHERS. NEVERTHELESS, IT WAS CONCLUDED THAT THE MOTHERS' GROUP INVOLVEMENT WAS A BENEFICIAL EXPERIENCE AND THAT FURTHER STUDIES SHOULD INCLUDE THE FATHERS OF UNDERACHIEVERS. (GD)

A STUDY OF METHODS DESIGNED TO IMPROVE THE RELATIONSHIP BETWEEN PARENTS' ATTITUDES AND THE UNDERACHIEVEMENT OF THEIR ELEMENTARY SCHOOL CHILDREN

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THE PROBLEM

There are many kinds of failures on all levels of American public education. But none calls so poignantly for our best efforts than that which surrounds us as we attempt to stage that "little people's drama" in the theater called The Elementary School. For there, when the basic academic skills are "up for grabs," failure, as Gertrude Stein might have said, means failure means failure means failure. It is true that we have instituted remedial programs to reverse the circle of such failures. But, alas, such failures, it has become apparent, are often compounded and confounded by certain attitudes, usually quite negative, which undermine even our most cleverly conceived and most cleverly executed remedial instruction. Moreover, such negative attitudes, unhappily, often come to be shared by all concerned. . . and not just the wounded students. Indeed, the "spread of affect" infects the teachers and then the administrators and finally the parents. . . so quickly that we can reasonably suspect we are faced with some kind of academic plague! And, of course, we have long suspected just that. But just as long have we suspected that we must involve somehow "the party of the third part," the parents of the children who are suffering academic difficulties, if we are ever to effect a truly ameliorative program of remedial instruction. For, they, the parents, set the emotional climate in the home whence cometh the negative attitudes. There, in any case, in the hottest of all crucibles, such attitudes are often brought to a bright boil! How to involve the parents. . . who are at once our hiatus and our hope? How to equip the parents with the Promethean spirit? Ay, there's the

rub! For, ever since the Smith College studies of the thirties, we have known empirically that parents' attitudes toward <u>their</u> children are touchy and insultable, particularly if <u>their</u> children are faced with academic problems. To attempt to change parents' attitudes, therefore, is to risk the head-snapping plunge somewhere nearer either Charybdis or Scylla . . . where the water seems always the more circular. Nevertheless, the risk would seem to be worth taking, for American education must come to deal more directly and more effectively with the suspect emotional climate of the American home if we are to enjoy the academic (and other) restoratives which programs of remedial instruction are dedicated to provide.

A recent study reported by Regal and Rizer (1962) suggests that we <u>can</u> involve parents whose children have academic difficulties, and that we can hope from such involvement will come some remarkable and quickly demonstrated improvement in at least <u>their</u> children's reading skills. Using an approach which is here called group guidance, Regal and Rizer were able, apparently, to move parents to accept the principle that parents have the primary educational responsibility for their children. Mothers also enjoyed individual conferences the better to help them". . . incorporate . . . remedial [reading] techniques into their family routine and to provide support and encouragement on an as-needed basis." And, again, significant improvement in reading skills was forthcoming.

Pettit's recent research proposal, which he submitted to the U.S. Office of Education, 30 August 1963, included a bloc of studies modeled after Regal and Rizer's work. However, this bloc of studies was conceived also as an extension of it. The present study, one of the several in this bloc, is designed to accomplish the first step of that extension. Admittedly, it is, as was its parent-model, a pilot investigation. Nevertheless, it can be hoped that, because it is truly an extension, this study will not only nurture the obviously"practical effects" which are invited by its design; it will also, it can be hoped, enrich those hypotheses which are the substances of Dr. Pettit's bloc of studies as he first conceived it.

OBJECTIVES

The objectives of this study were several. Listed and discussed briefly in descending order of importance, some of them read as follows:

(1) To determine the differential effectiveness of certain group methods to involve parents of underachieving elementary school children in a program designed to ameliorate the conditions of underachievement as these conditions might center upon parent-child relationships.

The obvious intent here was to effect changes in parents' attitudes ... for their attitudes might well be factors contributing to their children's underachievement. A given methodological orientation - say, group dynamics - might have <u>differential power</u> to involve parents . . . as measured by changes in their attitudes. But that same group method might also have <u>differential effectiveness</u> . . . as measured by changes in their underachieving children's academic skills. Both kinds of changes - parental attitudes and childrenal academic skills - are important (even though the latter kind was of primary concern here), for the influence of changed parents' attitudes on their children's academic skills may become manifest only after a discouraging lag in time. Hence, the methodological orientation had to be evaluated - again, say, in group dynamics - by both change-criteria. In any case, it seemed necessary to establish the relationships between a given group method and these two outcomes of the parents' group experiences. Moreover, it was assumed, there would be interaction effects which had to be identified if that group method was to be used most persuasively. So important are these interaction effects that their identification became the second objective of the study.

(2) To identify certain interaction effects amongst the three methodological orientations and (a) changes in parents' attitudes; and (b) changes in the academic performance of their underachieving children.

There are many other interaction effects which should be identified, but these are certainly two primary kinds. For it is obvious that a given group method may be more or less powerful and effective depending upon certain characteristics of both the parents and their underachieving children. Group guidance, for example, might be powerful and effective in involving parents whose major "fault" is a lack of knowledge ... whereas group dynamics might be preferable for those parents "suffering" a familial breakdown in communication. The interaction effects between a given group method and changes in parental attitudes, as well as the interaction effects between a given group method and changes in childrenal academic skills, had to be considered. This study set out to do just that.

Other interaction effects which must be considered eventually are equally obvious. Certainly the methodological orientation might be more or less powerful and effective depending upon the nature of the academic difficulty and the level upon which it comes to be faced by the parents and their children. Whether primarily a lack of skills, limited intelligence, emotional factors, personality disorder, etc.; whether confronted early in the elementary school or later ... but with such interaction effects, as well as the many more, the other studies of Pettit's bloc must reckon. While certain data were amassed as a result of this study - data which may have relevance for others of these important interaction effects - its scope had to be limited to a report on the "interaction differentials" listed above.

(3) To accomplish a quasi-validation of Regal and Rizer's most promiseful thesis.

This study proposed to extend Regal and Rizer's work and not to replicate it. Hence, while the design of the study is in the spirit of cross-validation, it cannot properly be considered as such. Nevertheless, had the outcomes fallen consistently in the direction they reported, it would have been a temptation to interpret them as supportive of their thesis, and it would have been a temptation to assume the role of educational evangelist ... and to spread the word to all hinterland posts and provinces!

(4) To identify those group methods which might be used with parents to reduce the probability of the children's becoming drop-outs and non-productive members of society. It is difficult to sort out the theoretical from the applied in this study for the design included features of both. All the while group methods and attendant interaction effects were being investigated, certain "practical effects," it was hoped,

would be forthcoming. To encourage the parents to reassess their status as parents, as well as their roles, the better to understand and appreciate their children's academic frustrations ... and the better to understand and appreciate the necessity for clear, warm sympathetic communication and acceptance of the complexity which marks their lives' interactions with each other and with the lives of the teachers who are also involved—such "practical effects" would be welcomed, if indeed they were forthcoming. For they would become a convincing oasis upon which to erect the more effective remedial programs in the public schools which parents who had enjoyed these same "practical effects" would then demand. More specifically, the "practical effects" might be described and predicted further in terms of: the redefinition of PTA activities; the promotion of the "room mother" concept; the mustering of community funds to support such group involvements by parents; the involvement of the school board on a higher and even legislative level—to support and effect "a new look" in remedial education; the sponsoring of future research, with the cooperation of all concerned, dedicated to the further refinement of group methods and measures of evaluation. The "practical effects", given a modicum of success, initially, would seem to be legion! The total contribution could well redefine our entire concept of parent-school relationship and in a new context serve immeasurably to enhance the conservation and utilization of our human resources.

RELATED RESEARCH

The literature of remedial education is voluminous, as might be expected considering the enormous problems which have attended our society's attempts to salvage its children suffering academic difficulties. Likewise, since 1947, the literature of group processes has become almost as voluminous. Neither literature can be summarized here. Instead, the parent study, upon which this study was based, and which this study was designed to extend, is cited. So important is it as a basis for understanding the purposes of this study—to say nothing of appreciating this study's evangelical tenor—that it has been reproduced in Appendix A.

PROCEDURE

Selection of Project Personnel

In the Summer quarter of 1965 selection of project personnel seemed to have been accomplished. However, unhappy circumstances

resulted in a withdrawal of three of the four people required. Death in family, husband's disapproval, too heavy a work load—these were unhappy circumstances indeed. Three replacements were selected: Mr. Ralph Pinkerton of the Renton district, a fourth-grade teacher with a fine reputation for relating to parents; Mr. Donald Whitney, school psychologist for the Renton district; Mr. Gerald Geschke of the Edmonds district, a former grade-school teacher and, at the time, an instructional aids supervisor. Mr. Darrell Johnson of the Renton district, a school counselor heading up a pilot program at Cascade Elementary School, agreed to continue as the sole survivor of the initially-selected group.

All seemed well-qualified. All but Mr. Pinkerton had had experience in group processes. All were eager to launch what seemed to them to be an exciting program of reform in remedial education. All carried out their assignments with a ready will ... they are referred to hereafter as project supervisors.

Testing and Selection of Sample

In both the Edmonds and the Renton districts the initially-selected project supervisors had identified groups of probable underachieving fourth-graders-to-be (they would be fourth-graders in September of 1965). The group in Edmonds numbered 128; that in Renton, 126. The identification of these groups had been accomplished with the help of third-grade teachers with whom the project supervisors had consulted. It was not a statistical selection at this point; rather, it was a selection based

upon a scanning of school records and a subjective judgment of third-grade teachers.

Mr. Johnson had been involved in the identification of this beginning group in Renton; Mr. Geschke inherited the chosen list from the project supervisor who had been forced to withdraw. He had worked with her previously, however, and had been apprised of her rationale for identification.

To these two groups, then, a mental ability and two achievement tests were administered. Project supervisors either administered these tests or acted as advisers of the fourth-grade teachers who found the time to. All the fourth-grade teachers were aware of the purposes of testing; however, none was informed of the groups who were selected finally.

This testing, which was accomplished during the last week of September, used the Lorge-Thorndike Verbal Battery, Level 3, Form A (1954). It also used the Stanford Achievement Tests, Arithmetic and Reading, Forms K and L, respectively (1953).

The fact that the Lorge-Thorndike was used in its Re-usable Edition presented something of a problem to many of the children, or so it was reported and so it seemed from the number of erasures. It is certain that not many of the children had faced an IBM answer sheet before. This was considered later in the final selection. No such problem faced the children in the case of the two Stanford Achievement Tests,

although a few had some trouble with underlining in the right line. (They were sometimes right, but recorded the answer on the wrong line!)

But worst of all turned out to be the fact that in one school in Edmonds the Stanford Reading Test was not completed. This sub-group had to be stricken from he others, of course. Other sources of shrinkage-absence from school, obvious misinterpretation of test instructions, unaccountably blank answer sheets - reduced the original numbers to 91 in Edmonds, and 118 in Renton.

These complete protocols were then processed - by hand-scoring techniques, of course, in the case of the two achievement tests - transcribed onto cards, and fed to an IBM 1620. Means, sigmas, z-scores and r's were computed. Tables 1 and 2 present the means and sigmas upon which these z-scores were based, together with the intercorrelations amongst the tests.

It had been the fond hope that a difference of one sigma between mental ability and achievement - arithmetic, reading, or both - should be the criterion defining underachievement. But inspection of the z-scores was discouraging, for fewer than were needed - considering the likelihood that not all mothers would respond to the letters which would invite them to a remedial group experience - could meet that criterion. Hence, the severity was reduced to one-half sigma difference. And, in some cases, when it was apparent that the Lorge-Thorndike was probably an underestimate - evidenced by few attempts and many erasures, and a

surprisingly higher score on the Stanford Reading – the difference of one-half sigma between a higher reading score and a lower arithmetic score was accepted. The reduction of the severity of the criterion and the acceptance of reading as a measure of mental ability in the case of apparent confusion on the Lorge-Thorndike (because of machine-scored answer sheets) seemed reasonable in light of the correlation between the Lorge-Thorndike and the Stanford Reading ... which was in Renton .651, and in Edmonds, .818. (As it turned out, an elegant statistical selection of underachievers was foiled by the fact that mothers, to whom no letters of invitation were sent, came, nevertheless. For the reasons that their pleas to be allowed to stay were poignant, that the turnout was in numbers shockingly below expectations, that differences on initial standing could be controlled afterward with an analysis of covariance – they were welcomed, even though their inclusion threatened to stack a few cards against finding the hoped-for dramatic changes in arithmetic and reading achievement.) Tables 3 and 4 display the raw scores, means, z-scores and r's upon which statistics final selection of the to-beinvited mothers was based - Edmonds; Tables 5 and 6 display similar statistics - Renton. It will be noted that the controls are represented side-by-side with the experimentals.

To 67 mothers in Edmonds and to 74 mothers in Renton letters were sent to invite them to an orientation meeting early in October. Again a discouragingly fewer number came to these meetings: 37 in Renton; 27 in Edmonds. An explanation of the project was attempted; a battle-cry was

sounded; another meeting was scheduled the following week. Another set of letters followed the first to invite the missing mothers. The following week 23 mothers returned in Edmonds; 35 returned in Renton. The groups had been formed, it seemed, and the best had to be made of a very shrunken number, for the reason that all concerned now had made some sort of contract.

Testing and Assignment of Mothers to Groups

The IPAT Self Analysis Form (1963) was administered to the mothers during the second meeting, the meeting which seemed to have formed the groups. The purpose of using this scale was to obtain some rough measure of anxiety. It was considered important to "distribute" the anxious mothers throughout all three experimental groups. For if, by chance, a concentration of highly anxious mothers were to appear in Group Dynamics, it would be, from a statistical standpoint, undesirable (in spite of the possible control by analysis of covariance), to say nothing of the problems which might be visited upon the "trainer" of that group. The scores from the IPAT were rank-ordered; thirds were established; mothers were assigned to the three experimental groups such that approximately equal numbers of high-middle-low anxiety scores were represented therein.

The pattern emerging from this attempt to assign according to anxiety level: Renton - 8 in Group Guidance, 14 in Group Dynamics, 13 in Combination; Edmonds - 8 in Group Guidance, 7 in Group Dynamics, 8 in Combination.

The Interpersonal Check List (1963) was also administered in Q-Sort form at that same meeting. The mothers sorted on self, spouse, child and self-ideal. It had been planned that they sort also on spouse-ideal and child-ideal, but apparently it was a traumatic enough experience to sort on the four which they were able, emotionally, to accomplish. (There was much emotional involvement!) (The ICL in the form used has been reproduced in Appendix B, together with the scoring sheet and scoring instructions).

The Q-sorts of the ICL were scored and recorded on cards as before-self, before-spouse, etc. The scores from the IPAT likewise were recorded. All before-scores then awaited post-testing, at which time all after-scores were recorded in the same way. The cards carrying the scores of their children's tests were then combined with the mothers' cards ... and a deck emerged carrying all pre-test and post-test scores for final analysis.

Schedule and Curriculum

After the testing of the mothers and their assignment to the three experimental groups, a schedule of eleven meetings was drawn, beginning in the middle of October and extending through the second week in January. There was a recess planned for Thanksgiving in Edmonds - not in Renton - allowing a skipped week; and a recess for Christmas in both Edmonds and Renton which involved two skipped weeks. Both groups met in planned sessions for eleven weeks - eleven sessions total - with one meeting allotted for orientation, two meetings allotted for testing - in addition -

making a total of fourteen sessions in all.

The content of the Group Guidance sessions was constructed by Mr. Pinkerton and Mr. Geschke after consultation with each other. They were free to give expression to their life-styles, but it was agreed to divide the time between modern methods of mathematics ("modern math") and modern methods of teaching reading. The progress through their proposed curriculum was to be dictated by the response of the mothers, and no strict time schedule was to be held. However, it was agreed that a major emphasis should be given to informing the mothers of the rationale by which the activities of the fourth-grade classroom - in arithmetic and reading - are guided.

The procedures in the Group Dynamics sessions were expressions of the experience in group processes with which Mrs. Johnson and Mr. Whitney were equipped. They agreed, however, to employ standard techniques used in most beginning T-groups. Some structure was provided at the outset, but then the anxiety of leaderlessness was allowed to mount. That the members of the groups in both cases were able to rise to the challenge there can be no doubt, for both trainers reported all the signs that a successful T-group had been established.

In the Combination sessions Mr. Geschke and Mr. Whitney interacted with the former's offering an abbreviated version of that which had been the content of his preceding Group Guidance session, and with the latter's moving the group away from the didactic and toward the self-expressional- this in Edmonds. Similarly, Mr. Pinkerton and Mr. Johnson interacted in the Combination sessions in Renton.

Each session amounted to an hour and fifteen minutes. In the Combination groups approximately half an hour was devoted to Group Guidance content during the first part of the session. The project directors were in attendance at most of the sessions (only two weeks were missed)acting as consultants whenever the mothers felt the need for further conversation. This consulting period followed each session for another hour.

Retesting of Mothers and Children

After eleven sessions in the three experimental groups the mothers were asked to complete the same testing - IPAT and Q-sorts. (Again, there was much emotional involvement as evidenced by much noisy conversation and much obvious camaraderie!)

Their children, it was planned, were to be tested again (using Form J of the Stanford Arithmetic and Form K of the Stanford Reading) in the middle of March, which would allow time (enough time, it was hoped!) for whatever effects accruing to the mothers from their group experiences to become manifest (it was also hoped!) in the children's academic performance. Testing of the children in Renton was accomplished by the end of March, with the flu delaying the process only a little. In Edmonds half of the experimental group failed to appear for testing as scheduled, and it was not until June that all testing had been accomplished - again, because of the lingering influence of the virus. This unfortunate epidemic affected experimentals and controls alike. However, in the end, all concerned were tested. There was further shrinkage in numbers even so ...

The mothers who survived the group experiences and returned for retesting were reduced in number from 35 to 21 in Renton; from 23 to 17 in Edmonds. The pattern of numbers in the experimental groups: In Renton - 4 in Group Guidance; 8 in Group Dynamics; 9 in Combination. In Edmonds: 6 in Group Guidance; 5 in Group Dynamics; 6 in Combination.

Many mothers dropped out, obviously. The project supervisors were in almost constant touch with some of them. They reported that some had had surgery, some had suffered illness, some had begun divorce proceedings ... one's house had burned down. Some had moved away out of state, some had found the time prohibitive, some had sought the haven of psychiatric care ... one had dropped out because the experience was making her feel that same way she had felt when she had sought out a psychiatrist previously! All in all it became a shrunken number indeed. And the N's were far short of the originally planned 15-per-group ideal.

ANALYSES OF THE DATA AND FINDINGS

Analyses of the Data

One of the purposes of this study was to investigate the differential effectiveness of the three experimental methods to involve mothers of underachieving fourth-graders in efforts to improve their children's academic performance ... as that involvement might be measured by changes in the mothers' attitudes - toward self, spouse, child - and as that involvement might be measured by demonstrable changes in the children's academic performance, with which the mothers' attitude-changes might be

related. Another purpose of the study was to investigate the differential effectiveness of the three experimental methods <u>in interaction</u> with the mothers' attitudes and changes in their attitudes ... To these two ends the statistical analyses were directed.

It was planned to use an analysis of variance technique, either simple, complex, or both. If the simple analysis yielded promising differences, then the complex; if not, then the complex was to be left undone. More specifically, if the measures of the mothers' attitudes considered one measure at a time turned out to bear no relationship with changes in their children's academic performance, then the use of a more complex design could be judged unpromising, and it was not, parsimoniously, to be attempted. Accordingly, an analysis of covariance was accomplished (with an IBM 1620) to estimate and to control the influence of the mothers' attitudes and changes of attitudes on their children's changes in academic performance. This same analysis of covariance was accomplished to indicate the promise of a more complex design which would identify whatever interaction effects might have operated between experimental methods and mothers' attitudes. (To that same end - the end of identifying such interaction effects - an obverse factor analysis was considered. This would have clustered like-mothers such that then their children's changes in academic performance could be evaluated according to experimental method. However, the numbers in the experimental groups had suffered such shrinkage that this technique was not feasible.)

An analysis of covariance was used to control each of the attitude measures - 32 before and 32 after - one at a time. The influence which such measures had on the means and the mean differences amongst the experimental groups' final scores in Arithmetic and Reading thus was established, and adjusted means and adjusted mean differences thus could be established. The mothers' anxiety scores - before and after - were subjected to the same analysis.

Findings

From the 132 F-ratios which were computed for each of the two groups - Edmonds and Renton - 24 emerged as significant at the .05 level: 12, with Arithmetic as the dependent variable, mothers' attitudes-before; 12, with Arithmetic as the dependent variable, mothers' attitudes-after - this only for Renton. No significant F-ratios emerged from the Edmonds analysis. Further, no significant F's emerged from either group with Reading as the dependent variable. Finally, none of the F's resulting from control of the IPAT scores was significant.

From the significant F-ratios r's were estimated. Only an apparently meaningless scattering of such r's proved to be significant, and only minimally so, none exceeding the .05 level. A rough clustering of the Renton mothers was accomplished in an effort to identify the possible reason for significant F's having come from them and them only. Their attitude measures were ranked; thirds were erected; their group membership, together with their children's Arithmetic scores, plotted.

Quite by chance, it was discovered, a preponderance of mothers with high self-regard (positive self-regard) had been assigned to the Combination group; while a similar preponderance of mothers with low self-regard had been assigned to the Group Dynamics group. This fact, together with the minimal but still appreciable correlations (.47 to .43) between some of the measures of mothers' attitudes and their children's Arithmetic scores, produced the significant F's, or so it was concluded. No such clustering of high self-regard and low self-regard mothers occurred in Edmonds; no such minimally appreciable correlation obtained there; no significant F's resulted.

It seems reasonable to infer that the minimally appreciable correlations between mothers' attitudes and their children's Arithmetic scores were overestimates. For the significant F's which emerged in Renton were partly a reflection of the chance clustering of mothers - mothers with high self-regard vs mothers with low self-regard - in the two experimental groups. An analysis of covariance is designed to identify differences on the control variable (here, mothers' attitudes), and to adjust the differences on the dependent variable with due regard for the differences on the control variable and the correlation existing between them. The fact of the clustering probably inflated the correlation. Therefore, and because no other significant F-ratios were found in any other group - not even the same mothers with Reading as the dependent variable - it is not defensible to infer any meaningful relationship between mothers' attitudes and their children's Arithmetic performance - certainly not Reading -

as these variables were measured in this study. Further, and because of this, a more complex analysis designed to investigate relationships between attitudes and academic performance - or attitudes and experimental methods - was not attempted. The question remained: were there any differences in the children's performance in Arithmetic and Reading which might be attributed to their mothers' group experiences - however much their attitudes and changes of attitudes eluded measurement? Tables 7 and 9 display comparisons with the Control groups in Edmonds and Renton, respectively. The results to be noted in these two tables are based on unadjusted means (unadjusted by the covariance technique for initial standing).

Only in the cases of Edmonds' Group Dynamics group - and the combined group were the t's (one-tailed test) significant, both at the .02 level, and in favor of the Experimentals' Reading improvement. A discouragingly reversed counter-trend appeared in the cases of the Experimentals' Arithmetic improvement; however, these reversed differences were not significant, even though they were in favor of the Controls. It must be added that the t in the case of the sub-group - Group Dynamics - was not computed considering the correlation between the Experimentals and Controls on Arithmetic and Reading; hence, it is probably an underestimate. It was reasoned that the t should stand on its own, and that to include in the formula recognition of an r based on N=5 would be difficult to defend. However, in the case of the reverse trend in Arithmetic - Controls exceeding Experimentals - the t was computed with due consideration of an r of .435 as the probable upper limit of the r existing in

the Group Dynamics sub-group. This, it was decided,was the chivalrous thing to do. Finally, in the case of the combined group - Experimentals against Controls on Reading - an r of .588 was included in the formula for t.

As for Renton: Group Guidance Experimentals exceeded their Controls in Arithmetic improvement ... t was significant at the .01 level (again, a one-tailed test). It can be suspected that, considering the chance clustering of Renton mothers on high vs low self-regard (mentioned previously), this might well be an overestimate of significance or an artifact. The Combination group surpassed their Controls on Reading with a t at the .02 level. No other significant t's emerged. Again, the t's for the sub-groups were not based on a formula including correlation; the estimates of significance for the combined groups were ...

Although F-ratios emerging from control of initial standing on Arithmetic and Reading were not significant, it was decided to be of McNemar's persuasion (1963), and to adjust the means of both the Experimentals and the Controls in effort to check further the significance of differences. This was done: Tables 8 and10display comparisons of the two groups with means adjusted by the covariance technique. It will be noted that the picture changes little in the case of Edmonds - Arithmetic; it changes little in the case of Reading. Only the Group Dynamics group's t changes - from the .02 level to the .05. As for Renton: The adjustment of means for initial standing permits the t for the Group Guidance group vs their Controls to remain at the .01 level. The same adjustment of means allows the t of the combined group comparison to rise to the .02 level. However, the Combination group's advantage over their Controls on Reading falls

from a t at the .02 level to a t which is not significant. The formula for t used the existing r in the same way as described in the case of the Edmonds' group: The sub-groups' differences were considered without recognition of the existing r; the combined groups were compared with r's as noted in those tables included.

It must be added, again, that precautions were exerted in deference to the adjusted means. New variance estimates were computed, based on the adjusted means, and new r's were computed - in the case of promising differences. The changes are noted in the tables displaying the adjusted statistics.

CONCLUSIONS AND IMPLICATIONS

Conclusions

It cannot be concluded that this study was a success; neither can it be concluded that it was a failure. For there were changes in academic performance in the direction predicted, and in those cases which survived the adjustment of the means by the covariance technique, or which emerged as a result of it, the differences can be considered the probable result of the mothers' experiences in the groups. However, this study cannot make any statements regarding the differential effectiveness of the group methods used to involve mothers, to change their attitudes ... nor can this study state that the mothers' attitudes or changes in attitudes - as measured by the Q-sorts - are related to their children's academic performance in Arithmetic and Reading. Therefore, the major objectives must

be considered to have eluded it, with only the few significant differences in favor of the Experimentals as small compensation for that elusion.

The Q-sorts cannot be suspected as measures of the mothers' attitudes or changes in attitudes. The ICL is too refined an instrument to cast it off on the basis of its apparent failure here. It is probable that fourteen or so short weeks of group involvement was too short a time to hope for changes such as might affect the emotional climate of the home - wherein the children's academic performance can be so reasonably expected to be influenced. The study by Regal and Rizer reported a much longer involvement of mothers. Perhaps, the failure is to be attributed to time.

But even if there was a failure of the Q-sorts due to the ICL's insensitivity, there remain the few changes in academic performance which can be interpreted reasonably as the result of something the mothers attempted to do with their children at home and after school. Their attitudes might not have changed, the Q-sorts might not have been able to measure such changes, and their attitudes, as measured, might not have been related to their children's performance ... even so, there were a few cases of statistically significant improvement in both Arithmetic and Reading, and these suggest that the mothers' group experiences were not in vain.

Another consideration looms just as large: The involvement of the mothers of this study for fourteen short weeks probably resulted in much disruptive conversation at home and with the fathers. It was not reported by Regal and Rizer whether or not the fathers (who served by only standing and waiting) resented the mothers' involvement. But it can be reported from this study that such was the case - in many cases. Conversations with the

mothers revealed a seemingly impossible conflict with their husbands - again in many cases - which was made the more difficult by the mothers' Tuesday or Wednesday sessions. In light of this, it would not be expected that the effects of the mothers' group involvement would filter to the children in any quickly purifying fashion.

This is to say nothing of the shrinkage of the groups! Certainly with more respectable N's the differenceswhich resulted might be defended more easily. Nor is to say anything about the consequent sampling errors which followed the shrinkage and which cannot be estimated. The characteristics of the mothers who turned down the initial invitation, those who came only to drop out later, those who lingered longer but refused to accomplish the final retests... these characteristics must remain unknown. And how characterize those loyal ones who survived - beyond the limits of the measures used?

There intrudes also the spectre of the flu epidemic! Again, it cannot be known which child was affected in his final retesting effort ... although it can be assumed, perhaps, that Experimentals and Controls were affected similarly.

Implications

Even so, it is tempting to believe that the mothers' group involvement was a good experience in their otherwise drab and overextended lives. The informal measures of their appreciation - their gratitude, their obvious camaraderie in the groups, their heartwarming resolves to return home with a smile - lead to the conviction that mothers of elementary school children should have the privilege of a T-group-like experience, particularly,

when they face at home - as seemed to be the case so often - apathy, resentment, violence. This, coupled with the modicum of improvement - enjoyed by the Experimentals as compared with the Controls - reinforces the belief, held strongly here, that grandly conceived programs based upon the "practical" objectives of this study be executed in all middle and lower-class communities (where mothers are the bulwark without which the family would fail ...). (This is obviously a pro-feminist statement, but it is, nonetheless, here, considered defensible.)

The middle-and lower-class fathers, it is believed here, should become the primary target for programs of group involvement. Or, perhaps, they, together with the mothers, should be invited to become involved. For their lives are often just as drab and overextended - along other dimensions. And perhaps, a sharing of perspectives - to say nothing of the likely refreshment which might come after restored communication - could effect such a change in attitude as would be suggested by the remark: "Well, Lois, we're in this together ... and we have a fourth-grader who is not doing well in school. I guess we must work on this together ... one for all and all for one!" Certainly, face-to-face with their wives, the promise of restored communication, which often becomes less and less likely, attempted as a dyad, is real.

Table 1- Means, sigmas, and intercorrelations of initial scores (total sample) on Lorge-Thorndike-Verbal, Stanford Arithmetic (Form K), and Stanford Reading (Form L)-- Edmonds School District.

N=91	L-T-v	Arithmetic	Reading
Means	32.813	36.109	42.989
Sigmas	14.500	10.136	15.867

N=91	L-T-v	Arithmetic	Reading
LT-v	------	.619	.818
Arithmetic		------	.569
Reading			------

Table 2-Means, sigmas, and intercorrelations of initial scores (total sample) on Lorge-Thorndike-Verbal, Stanford Arithmetic (Form K), and Stanford Reading (Form L) -- Renton School District.

N=118	LT-v	Arithmetic	Reading
Means	31.008	34.567	43.711
Sigmas	11.556	9.392	11.828

N=118	L-T-v	Arithmetic	Reading
LT-v	------	.563	.651
Arithmetic		------	.591
Reading			------

ble 3 - Raw scores and sigmas (based on derived sample -- N=17) on Lorge-Thorndike, Arithmetic and Reading -- Experimental vs. Control Groups--Edmonds.

EXPERIMENTAL				CONTROL			
#	L-T	A	R	#	LT-v	A	R
61	25	21	29	217	19	28	31
66	31	30	24	144	21	27	23
68	50	55	33	133	45	52	58
65	39	44	40	185	41	41	39
73	33	59	37	168	22	41	38
75	51	37	53	167	35	36	55
81	67	51	74	221	42	59	71
89	51	23	62	148	42	36	64
95	38	25	60	184	48	44	61
03	25	42	19	208	23	38	20
04	44	36	42	178	36	39	43
05	19	18	22	225	19	17	20
.3	32	31	16	136	22	30	16
.4	19	15	42	142	21	25	37
.8	57	45	57	187	36	45	58
45	28	45	44	192	37	40	46
48	50	52	62	134	56	48	60
M	38.764	37.000	42.117	M	33.235	38.000	43.529
SD	13.975	13.596	17.149	SD	11.680	10.452	17.400

Table 4 - Z-scores (based on sigmas of total sample - N=91) used to identify underachievers and to match Experimental and Control Groups (best match possible) on Lorge-Thorndike, Arithmetic and Reading -- Edmonds.

EXPERIMENTAL				CONTROL			
#	LT-v	A	R	#	LT-v	A	R
151	- .538	-1.490	- .881	217	- .952	- .800	- .755
156	- .125	- .602	-1.196	144	- .814	- .898	-1.259
158	1.185	1.863	- .629	133	.840	1.567	.946
165	.426	.778	- .188	185	.564	.482	- .251
173	.012	2.258	- .377	168	- .745	.482	- .314
175	1.254	.087	.630	167	.150	- .010	.756
181	2.357	1.468	1.954	221	.633	.186	.882
189	1.254	-1.293	1.198	148	.633	- .010	1.324
195	.357	-1.096	1.072	184	1.047	.778	1.135
203	- .538	.581	-1.511	208	- .676	.186	-1.448
204	.771	- .010	- .062	178	.219	.285	.000
205	- .952	-1.786	-1.322	225	- .952	-1.885	-1.448
213	- .056	.054	-1.700	136	- .745	- .602	-1.700
214	- .952	-2.082	- .062	142	- .814	-1.096	- .377
218	1.667	.877	.882	187	.219	.877	.946
245	- .331	.877	.020	192	.288	.383	.189
248	1.126	1.567	1.145	134	1.599	1.173	1.072

* were not sent letters - welcomed as interlopers.

Table 5 -Raw scores and sigmas (based on derived sample -- N=21) on Lorge-Thorndike, Arithmetic and Reading--Experimental vs. Control Groups--Renton.

EXPERIMENTAL				CONTROL			
#	L-T	A	R	#	LT-v	A	R
009	24	32	39	004	21	33	39
017	57	45	66	116	59	49	62
029	39	28	62	088	39	37	60
033	44	36	38	046	34	37	39
045	32	27	45	038	22	27	42
055	19	34	24	073	15	27	32
062	53	22	43	026	30	24	41
064	31	29	45	016	33	30	28
065	39	35	40	102	34	39	42
066	32	43	33	061	34	45	39
070	18	29	53	118	20	27	53
072	34	38	27	071	33	35	36
080	20	18	10	042	13	22	24
081	36	22	46	024	36	24	52
086	31	40	43	013	33	40	45
092	34	30	25	010	24	33	31
093	49	41	45	098	33	40	45
106	36	29	41	049	25	29	40
111	27	25	41	095	24	33	43
119	38	46	46	084	34	46	48
121	18	13	18	115	18	13	29
M	33.857	31.523	39.523	M	29.238	32.857	41.904
SD	10.946	8.857	13.377	SD	10.113	8.816	9.481

Table 6 - Z-scores (based on sigmas of total sample--N=110) used to identify underachievers and to match Experimental and Control Groups (best match possible) on Lorge-Thorndike, Arithmetic and Reading -- Kenton.

	EXPERIMENTAL				CONTROL		
#	L-T	A	R	#	LT-v	A	R
* 009	- .606	- .273	- .398	004	- .866	- .166	- .398
017	2.248	1.110	1.884	116	2.422	1.536	1.546
029	.691	- .699	1.546	088	.691	.258	1.377
033	1.124	.152	- .482	046	.258	.258	- .398
045	.085	- .805	.108	038	- .779	- .805	- .144
055	-1.039	- .060	-1.666	073	-1.385	- .805	- .990
062	1.902	-1.338	- .060	026	- .087	-1.125	- .229
064	- .000	- .592	.108	016	.172	- .486	- .482
065	.691	.046	- .313	102	.258	.471	- .144
066	.085	.897	- .905	061	.258	1.110	- .398
070	-1.125	- .592	.785	118	- .952	- .805	.785
072	.258	.365	-1.412	071	.172	.046	- .651
080	- .952	-1.763	-2.850	042	-1.558	-1.338	-1.666
081	.431	-1.338	.193	024	.431	-1.125	.700
* 086	.000	.578	- .060	013	.172	.578	.108
092	.258	- .486	-1.581	010	- .606	- .166	-1.074
093	1.556	.684	.108	098	.172	.578	.108
106	.431	- .592	- .229	049	- .519	- .592	- .313
111	- .346	-1.018	- .229	095	- .606	- .166	- .060
119	.604	1.217	.193	084	.258	1.217	.362
121	-1.125	-2.296	-2.173	115	-1.125	-2.296	-1.243

* were not sent letters -- welcomed as interlopers.

Table 7-Means, sigmas, mean differences and t's (means not adjusted by covariance technique)--Arithmetic and Reading final scores--Experimental vs. Control Groups--Edmonds.

ARITHMETIC

		Experimental	Control	Mean Differences	t's
Group Guidance	M	60.000	56.333	3.666	NS
N=6	SD	7.234	3.936		
Group Dynamics	M	49.800	57.000	- 7.200	NS
N=5	SD	13.874	8.602		
Combination	M	44.333	50.500	- 6.167	NS
N=6	SD	16.994	10.997		
All	M	51.470	54.470	- 3.000	NS
N=17	SD	15.342	9.408		

READING

		Experimental	Control	Mean Differences	t's
Group Guidance	M	69.833	66.333	3.500	NS
N=6	SD	7.127	9.338		
Group Dynamics	M	71.600	55.800	15.800	3.161
N=5	SD	12.692	13.729		.02
Combination	M	56.833	49.333	7.500	NS
N=6	SD	19.385	16.245		
All	M	65.764	57.235	8.529	2.422
N=17	SD	15.569	15.674		.02

r (Arithmetic--Experimentals with Controls) = .435
r (Reading--Experimentals with Controls) = .588

Table 8-Means of final scores (adjusted by covariance technique for initial standing), mean differences, and t's: Experimental vs. Control Groups--Edmonds.

ARITHMETIC

		Experimental	Control	Mean Differences	t's
Group Guidance	M	57.438	54.935	2.503	NS
Group Dynamics	M	47.637	55.322	-7.685	NS
Combination	M	48.698	53.296	- 4.598	NS
All N=17	M	51.257	54.517	- 3.260	NS

READING

		Experimental	Control	Mean Differences	t's
Group Guidance	M	66.788	64.810	1.978	NS
Group Dynamics	M	69.028	53.874	15.154	2.235
	SD	14.476	15.352		.05
Combination	M	62.022	52.371	9.651	NS
All N=17	M	65.946	57.018	8.928	2.299
	SD	16.048	15.619		.02

r(Reading--Experimentals with Controls) = .489

Table 9-Means, sigmas, mean differences and t's (means not adjusted by covariance technique)--Arithmetic and Reading final scores--Experimental vs. Control Groups--Renton.

ARITHMETIC

		Experimental	Control	Mean Differences	t's
Group Guidance	M	57.250	43.250	14.000	4.879
N=4	SD	5.761	3.482		.02
Group Dynamics	M	52.000	50.000	2.000	NS
N=8	SD	6.889	8.014		
Combination	M	46.666	42.555	4.111	NS
N=9	SD	6.341	12.410		
All	M	50.190	45.523	4.667	NS
N=21	SD	7.807	10.510		

READING

		Experimental	Control	Mean Differences	t's
Group Guidance	M	63.750	64.250	- .500	NS
N=4	SD	7.880	6.136		
Group Dynamics	M	61.125	57.375	3.750	NS
N=8	SD	11.731	16.561		
Combination	M	64.111	53.000	11.111	2.809
N=9	SD	8.912	7.841		.02
All	M	62.238	56.809	5.429	NS
N=21	SD	10.430	14.267		

r (Arithmetic--Experimentals with Controls) = .032

r (Reading--Experimentals with Controls) = .209

Table 10- Means of final scores (adjusted by covariance technique for initial standing), mean differences, and t's: Experimental vs. Control Groups--Renton.

ARITHMETIC

		Experimental	Control	Mean Differences	t's
Group Guidance	M	58.127	42.292	15.835	4.617
	SD	5.825	3.621		.01
Group Dynamics	M	51.742	48.482	3.260	NS
Combination	M	46.506	44.330	2.176	NS
All	M	52.125	45.034	7.091	2.451
N=21	SD	8.064	10.522		.02

READING

		Experimental	Control	Mean Differences	t's
Group Guidance	M	65.260	60.717	4.543	NS
Group Dynamics	M	60.680	55.380	5.300	NS
Combination	M	63.835	56.344	7.491	NS
All N=21	M	63.258	57.480	5.778	NS

r (Arithmetic--Experimentals with Controls) = .047

APPENDIX A

PARENT EDUCATION EXPERIMENTAL PROGRAM

by

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Background of the Study

The failure of children to develop some of the academic skills at a level commensurate with adult expectations is of much concern in many of the communities throughout North America. Parents are frequently anxious about their child's failure to master specific skills such as inability to read fluently, or failure to know many basic facts that were mastered by children of previous generations.

The professional educators express concern that children are not learning basic academic skills in their early years, and, therefore, learning is seriously impeded at higher levels. This failure to learn is frequently attributed to an inadequacy or indifference of parents who hamper the efforts of school faculties.

Both parents and educators agree that underachievement of children is a serious problem. They disagree about how to resolve this problem. The professional educators must accept the major responsibility for this disagreement and misunderstanding which exist today. Parents have been told that they are at fault for their child's failure, but they are not offered any possible remedy to the situation. The parent of an underachiever may be told not to tutor his child because proper teaching requires professional techniques and a technique blunder by a parent may cause permanent damage. In a limited number of cases, children may be sent to a remedial class for special assistance, but more frequently parents are asked to recognize the shortage of treatment facilities, are told not to meddle with their child's difficulties and to adjust to a life of quiet frustration.

Since it has become a common practice for educators to warn parents not to meddle in the mysteries of the teaching-learning process, a re-examination of the parental role within the family unit seems appropriate. In our society, the primary responsibility for the rearing of children lies with the family. The family in turn, delegates some of the rearing to the school. When professional educators are concerned with parental meddling in the education of their children, these educators are ignoring the structure of our society which is based on the responsibility of the family unit. The rearing of children by parents is far more than a production of raw material which professionals mold into civilized adults.

Parents are the primary educators of their children, and professional educators need not be fearful of involving parents in a job that they have never relinquished. This study is based on the premise that parents are the prime teachers of their children and, with help, can more effectively teach their children.

Related Research

There are only a limited number of studies in parent education which are related to this research program. Most of the parent education research can be dealt with under a category labeled "Before and After Attitude Testing". Except for demonstrating that parents, after attending either group or individual meetings, learn how to make certain verbal responses, these studies make a minimal contribution.

Orville Brim (2) commented most aptly on these studies when he stated:

> "The difficulties inherent in using criteria of effectiveness other than observations of children themselves are augmented in some programs by the failure even to make an effort at a theoretical selection of a criterion. Some studies seem to seize almost the first available test and to use it to evaluate a program, whether or not it is linked by theory to program objectives. The currently popular attitude test of the year . . ."

Brim well summarizes the state of affairs in parent education when he states:

> "The issue of how effective is parent education in changing parents or children, therefore, remains unresolved at present."

Although, at first glance, the state of research in parent education presents a bleak picture, when we make a closer examination of the previous work, we find bits and pieces within various studies to provide clues worthy of further exploration.

The study most closely related to this proposed research was done by A. F. Samuels,(8) in which she carried on group discussions with mothers of children with severe reading problems, who were attending a reading clinic. These discussions were oriented to mental health problems and specific reading-help skills were not taught the mothers. The attitude of the mothers in the Experimental Group changed significantly more than the mothers in the Control Group when measured before and after with an attitudinal test. The children's reading performance in the Experimental Group did not improve significantly more than the children in the Control Group.

It is difficult to understand why Samuels hypothesized improvement in reading when concentrating on principles of mental health.

Another study which offers some additional insight relative to a parent education is reported by Drews and Teahan (3). They found:

> "that mothers of high-achievers were more authoritarian and restrictive in the treatment of their children than the mothers of low-achievers. The parents of high-achievers also seemed to have more punitive attitudes with respect to child rearing."

These researchers went through some effort to point out how terminology becomes used in a rather slovenly manner. Patterns of behavior have been described on a morality continuum with behavior identified as democratic at the good end of the scale and authoritarian at the bad end. Drews and Teahan defined restrictive behavior of a parent as situations where a parent insisted on their child's adherence to a study schedule and the performance of school work. The children of restrictive parents did better work in school than the children of permissive parents. Perhaps we can deduce from this study that children learn more efficiently when the mother takes on more of the role of a teacher.

Before we conclude that parents who are concerned and involved in the school work of their children will have high-achieving children, we should examine the findings of Hattwick and Stowell. (4)

In their research of some thirty years ago, they concluded:

> "In general, the work of the school depends to a marked extent on parental attitudes. When parents are over-attentive, the school is waging an uphill battle in its attempt to improve the child. Only when the home is well-adjusted, can we have any assurance that the work of the school will be successful."

Although their research design does not warrant the above conclusion, this study merits attention because it does represent a rather commonly-held belief among educators and is quoted frequently in the literature.

The literature is well supplied with studies relating parent qualities determined by a questionnaire, attitude test, projective technique and clinical interview with children's adjustment. These studies typically demonstrate that a parent who has some quality or lacks a quality which is a popular theme with psychologists at the time has children who are accordingly well or maladjusted. However kind one wishes to be in examining these studies over a period extending more than forty years, it is difficult to find any lasting contribution that has been made to our knowledge of parents or children through this approach except to develop an abiding admiration for the ability of parents and children to tolerate all this testing.

Bell (1) reflected on the limitations of these attitude studies when he stated:

> "It is surprising at first glance that no direct studies of relations between measured parental attitudes and the actual behavior of parents with children can be located in the literature."

It is a relatively simple matter to find writings which express recognition for the importance of the parental role in affecting children's behavior. In the absence of evidence and with reliance on faith in parents' abilities to modify the behavior of their children, many child guidance clinics require parental participation in their child treatment program.

One of the few research studies which examined the effectiveness of parents in modifying the neurotic behavior of their children was done by A. L. Levi, (5) in which she compared the therapeutic outcomes of treatment programs where only the children were treated and where parents were treated as well as children.

"It was found that there is no relationship between parent treatment and the outcomes of the child's therapy. This study contradicts the assertions in the literature that a child cannot be helped unless his parent is also treated, or that the child's therapy is facilitated when the parent is treated."

The findings of Levi's study are consistent with our hypothesis that exposure of parents to a professional child worker does not help parents become capable modifiers of their children's behavior. From Levi's description of the study, there was no evidence that any specific teaching program was initiated with the parents. Instead, the therapy was described as supportive from which we may infer that the purpose of the relationship was for the parent to feel a generalized acceptance from which they were expected to learn better methods for coping with their children.

Our methods in the Parent Education Experimental Program for helping parents to modify their children's behavior is more direct that the therapeutic process described by Levi. The behavior we wish to modify is the children's academic achievement. Because academic success is so dependent on reading skills, reading will receive primary attention. Parents will be taught techniques for helping their children in reading and study skills.

The viewpoint which best expresses our approach to reading was well summarized by David Russell. (7)

"Most experts in reading have been shifting from one cause of reading difficulty to a group of causes and, accordingly, from reliance on one remedial technique such as speed exercises or phonetic analyses, to the use of a variety of activities leading to a better emotional, social and academic adjustment."

It is our belief that parents can provide the individual attention necessary for trying a variety of activities with their children. Perhaps as we learn more of the parent potentiality as teachers, we will observe that they are capable of approaching the experts' recommendations for optimum teaching of reading more closely than the classroom teacher.

Purpose of the Study

In recognition of the significance of the family unit as potentially the most effective treatment resource for children with educational problems, The Parent Education Experimental Program was designed to explore this available resource. For the purpose of this study an hypothesis was established that a modification of children's attitudes and consequent changes in their behavior can be brought about by working psychologically solely with their parents.

Methodology

Due to the need to test a variety of methods for working with parents a pilot study utilizing an action-research methodology appeared to be most feasible for developing techniques to instruct parents in the remedial skills necessary for them to help their children achieve more academically. The Parent Education Experimental Program, which, for simplicity, will be referred to as PEEP, would have some of the design limitations which frequently accompany action research, such as selective factors in the choice of an experimental group and shortcomings in the control of variables.

In the development of PEEP, it was necessary to resolve several critical problems:

Problem One: PEEP had to fit within the framework of the Vancouver School District. The subjects of this study were to be the parents of school children and their children. From the onset, it was necessary to recognize that the school is a public agency; therefore, when school officials expressed concern that some aspect of this study might reflect negatively on the school district, the design was modified accordingly.

Problem Two: A population of parents was needed in order to select an experimental group who would meet the criteria of the study. The officials of the school district pointed out that it was not advisable for them to select parents of under-achievers for possible enrollment in the program because these individuals could interpret such action as coercive and embarrassing. The technique employed was the use of mass media of communication, newspapers, radio and television. Shortly following the news articles, enough applications were obtained from which to select an experimental group who met the criteria of the study.

Problem Three: The criteria for selection of the experimental group had to be established, and a group of parents selected. In order to be selected, the children had to meet the following requirements: low academic achievers, as defined by school grades; an I. Q. of 80 or above; parental agreement to attend all group and individual meetings; and payment of a ten dollar registration fee. Fifty-four families registered for the program, and fifty-two completed the first phase of PEEP.

The parents met as a single group weekly for 17 weeks. At these group meetings, there was discussion of principles and techniques of the teaching-learning process. The intent of the instructors at these meetings was to teach parents how to effectively help their children in study skills and to suggest means for providing encouragement and support.

The mothers met individually with a counsellor once every other week for an hour interview. The purpose of these individual sessions was to help the mother apply the general information covered at the group meetings to her family.

Results

PEEP was in process with the parents for .4 of an academic year. In evaluating the success of this program, .4 of a year gain was considered as that which would have been achieved regardless of whether these children were subject to a special program. In order to establish a rigorous criterion of success, the assumption was that a child who gained a minimum of double this normal rate, or .8 of an academic year, benefitted from PEEP.

The children were tested before and after the four month period with the Gates Reading Survey Tests and the Los Angeles Arithmetic Diagnostic Tests. The rigorous nature of the criterion of double the rate may be better recognized when note is made of the basis of selection of the experimental group. In order to be accepted for this study, the children had to be evaluated by their schools as academically below average students. Therefore the assumption that these children would gain as much as the average student was optimistic and the criterion of twice the normal rate, for these children, does represent a rigorous level of success.

You may note as you examine the data in the following table, that four of the Intelligence Quotients were 80 and below. It was the original intention to eliminate this category from the study. However, it was necessary to base the selection on the Intelligence Tests furnished by the schools. When an Intelligence Test was administered as part of the testing for PEEP, substantial differences were found between these scores and those submitted by the schools. In order to have recent Intelligence Quotient scores administered to the total group of children within the same time period it was decided to use the results of the PEEP testing program as an Intelligence Quotient reference.

An examination of the data reveals that in reading, 73 percent of the children, and in arithmetic, 58 percent of the children met the criterion of success -- of twice the normal gain or better. A reduced percentage in gain in arithmetic may be due to the relatively short time spent with the parents on the subject. Other reasons could be that (1) present curriculum design does not encourage children to independently explore new techniques in arithmetic, or (2) arithmetic involves reading problems and a gain would show first in reading and consequently delayed improvement in performance should be realized.

TABLE I

READING AND ARITHMETIC GAIN BY INTELLIGENCE QUOTIENT CATEGORY

	Gain of .8 Grade or More		Gain of .7 Grade or Less	
Intelligence Quotient	Reading	Arithmetic	Reading	Arithmetic
141 -	1	2	1	0
140 - 131	1	1	1	1
130 - 121	4	4	1	1
120 - 111	9	4	2	7
110 - 101	7	6	2	3
100 - 91	6	6	2	2

(Table I continued)

Intelligence Quotient	Reading	Arithmetic	Reading	Arithmetic
90 - 81	8	6	3	5
80 -	2	1	2	3
TOTAL	38	30	14	22
PERCENT	73%	58%	27%	42%

N - 52 Subjects

Although the numbers are too small to provide anything but a guide for further investigation, the success of children with Intelligence Quotients of 90 and below is worth a special note. Of the fifteen children who fell into the 90 or below category, 10 of them were successful in gaining reading skills as defined for the study.

TABLE II

COMPARISON OF MEANS OF EXPERIMENTAL GROUP CHILDREN WITH MATCHED GROUP CHILDREN ON PRE-PROGRAM REPORT CARD GRADES

	Experimental	Sig. of Diff.	Match
Reading	3.34	.01+	4.16
Arithmetic	3.95	*N.S.	4.04
Total Subjects	34.48	N.S.	36.38

*Not Significant

The children in the Matched group were selected by school principals with the following criteria as a guide; the Experimental and Matched child were to be students in the same classroom, of the same sex, and similar in age, I.Q., and previous school performance. In order to avoid contamination of the Matched group, the identity of these children was not known to the teachers or the authors of this study.

An examination of Table II suggests that matching precisely on previous school performance may not have been feasible, while controlling the other factors. Because a criterion for selection of the Experimental Group was serious retardation in reading, the Matched Group's significantly higher level of performance is readily understandable. The reader may also observe, by inspection of Table II, that at the onset of the program the Matched Group's school performance was better in all three areas studied.

In Table III the mean gains during the period of the Parent Education Experimental Program for the Experimental and Matched Groups are presented.

TABLE III

MEAN GAINS OF EXPERIMENTAL AND MATCHED GROUP CHILDREN BY REPORT CARD GRADES

	EXPERIMENTAL				MATCHED			
	PRE. PEEP	GAIN	SIG. OF GAIN	POST. PEEP	PRE. PEEP	GAIN	SIG. OF GAIN	POST. PEEP
Reading Mean	3.34	1.51	.01	4.85	4.16	.06	N.S.	4.22
Arith. Mean	3.95	1.31	.01	5.26	4.04	.46	N.S.	4.50
Total Subjects	34.48	9.82	.01	44.30	36.38	4.44	.05	40.82

The category "Total Subjects" requires some explanation. The figures in the table represent the mean of each group when all the academic subjects taken by a student were summed. This sum became his Total Subject Score.

In comparing report card grades of the Experimental and Matched groups, we observed that in each category the Experimental group was lower than the Matched group at the PRE-PEEP period, and higher than the Matched group at the POST-PEEP period.

The change in grades from the Pre- to the Post- Period for the Experimental group in the three categories reported was significant at the .01 level or better; tnat is, the probability that this change could be accounted for by chance is less than one in a hundred.

The change in grades from Pre- to Post- for the Matched group was not significant in Reading and Arithmetic, although it was significant for Total Subjects at the .05 level.

In Table IV, the extent of gain of the Experimental and Matched groups was compared, and it may be observed that the Experimental group gained more in all three areas. In the subject area that received most emphasis, Reading, the gain of the Experimental group was significantly more than the gain of the Matched group at the .01 level.

TABLE IV

COMPARISON OF SIGNIFICANCE OF MEAN GAINS OF EXPERIMENTAL AND MATCHED GROUPS

	Experimental	Matched	Significance
Reading Mean Gain	1.51	.06	.01
Arithmetic Mean Gain	1.31	.46	N.S.
Total Subjects Mean Gain	9.82	4.44	N.S.

Summary and Conclusions

In reviewing the gains made by the Experimental and Matched groups in Reading, Arithmetic and Total Subjects, we may readily conclude that the Experimental group's gains were greater, and more consistent than the Matched group. It is, therefore, reasonable to assume that this improvement in school performance is additional evidence that significant behavioral changes have occurred with the children of the Experimental group. Although the authors of this study did not anticipate that the changes would manifest themselves this quickly in as many areas, they are gratified that parental involvement was reflected in the children so extensively and rapidly.

There are many questions which require further investigation before clues are found that will lead to improved techniques for helping parents with their children's problems. In finding answers to related questions, there is danger of losing sight of the more critical questions parents ask such as : "What can I do to help my child?" Researchers, at times, in their enthusiasm to gather data and develop extensive correlation matrices fail to explore the heart of the problem and remain enmeshed in the statistical manipulations at the periphery.

Case Histories

PEEP may be better understood, and the effect of this program on the lives of parents better understood with the examination of several summarized case histories.

Summary of Data Form of the Earl Family:		Case of James Earl
Father:	Age - 35	Education - High School Graduate
Mother:	Age - 31	Education - High School Graduate
Child:	Age - 12½	Sex - Male School Grade 5-6
Siblings:	Age - 10	Sex - Male School Grade 4
	Age - 8	Sex - Female School Grade 2

"Jim is a sweet easy-going child and a good little helper," is a typical teacher's description of James Earl. He does many nice things for teachers except academic work. He never manages to finish his school assignments.

Mrs. Earl is a pretty woman, who gets along well with people. Her method of adjustment has been to get along, not to argue or deny, or struggle because life is easier that way. When she was asked questions regarding TV watching or homework, she volunteered that she wasn't good at setting limits.

The role of the husband is difficult to assess. She didn't mention him until the fourth meeting, and then, just to answer a direct question. Since that one answer, she has not discussed him again.

Mrs. Earl was able to recognize that she avoided dealing with problems and typically internalized her feelings, nurtured and fed her anger, then reacted to the children rather overwhelmingly. From her description, the children have learned from her how to avoid conflict and accept her intemperate release without any direct clash.

She could readily intellectualize that inconsistent behavior and overwhelming assaults might have an immobilizing effect on Jim.

With the support of the counsellor, Mrs. Earl began scheduling homework and making a greater effort to deal with problems when they arose rather than internalizing. She was pleased to observe the changes in Jim. He was able to get to his homework without being nagged and was able to complete his work without too much supervision.

Jim, also, for the first time in his life, now takes a book to bed with him in order to read on his own. This new interest in school and in reading has provided Mrs. Earl with enough encouragement to wish to continue her efforts to modify her own behavior.

Summary of Data Form of the Ash Family		Case of Carol Ash	
Father:	Age - 45	Education - Some University	
Mother:	Age - 45	Education - High School Graduate	
Child:	Age - 10	Sex - Female	School Grade 4
Siblings:	None		

Carol is a child with seriously-impaired hearing. This impairment was known by the mother since the child was three years old; but this problem was not diagnosed by the school. The child's teacher suggested to the mother that Carol was mentally retarded.

Carol, with the mother's efforts to teach her how to adjust to impaired hearing, had been able to perform at a below-average level but not so poorly as to be identified for special school services. Carol was treated as a borderline mentally retarded child working at capacity. The mother, who feels inadequate in the presence of school personnel, was unable to communicate the information related to Carol's hearing loss to the teachers. Mrs. Ash did not feel comfortable enough with the teachers to reveal Carol's problem, and failed to inform them that Carol's smile when being scolded was polite deafness rather than acute impudence.

The mother was not aware that there were community agencies which could help, and she didn't have to feel alone with her problem. Mrs. Ash agreed to investigate these agencies and have Carol fitted with a hearing aid and enroll her in some of the lip-reading programs. Mrs. Ash was encouraged to spend some time with the teacher in order to help the teacher understand the nature of Carol's limitations. Along with helping the teacher, Mrs. Ash was also able to communicate to Carol the need for her to focus constantly on the teacher in order to be aware of what was going on.

With additional understanding, the teacher was able to modify her teaching for Carol. Carol showed immediate gains which further increased Carol's motivation to succeed in school.

Summary of Data Form
of the Doll Family

Case of William and Jane Doll

Father:	Age - 37	Education - High School
Mother:	Age - 34	Education - High School
Child:	Age - 12	Sex - Male School Grade 6
Child:	Age - 11	Sex - Female School Grade 5
Siblings:	Age - 8	Sex - Female School Grade 3
	Age - 5	Sex - Male Not in School

Mrs. Doll until recently was a working mother, who took time out to have children and then returned to work. She had four children and they were mostly in the care of housekeepers during their formative years of infancy. She decided to become a full-time homemaker about a year ago, when she first became aware that her children were showing symptoms of fear, insecurity and disorganization.

Mrs. Doll feels frustrated because she thought that the process of staying at home would remedy the situation automatically. Mr. Doll has abdicated the role of the father as related to guiding or spending time with the children. He feels that it is the mother's job to rear the children, help them study, dress, eat, behave, etc. Father escapes this tedium by building boats.

Mrs. Doll was upset by her children's poor showing in school and registered with PEEP to find techniques for more effective working with William and Jane.

Mrs. Doll interviewed the teachers of her children and recognized that she would be required to devote a great deal of time to her children's studies and this would necessitate greater participation by her husband. Mr. Doll came under pressure to the group meetings with his wife, and he did agree that the children needed help and attention - and then returned to boat-building.

Mrs. Doll is not pleased with the father's role, and it appears that only her identification with religion holds the family together in its present form. Mr. Doll uses many techniques to be at home and abdicate at the same time, such as not permitting conversation at the dinner table, then working in the garage until the children are in bed, then back in the house for a brief snack, and on to bed.

Mrs. Doll feels alone and rejected, and is compensating by pouring her energies and love into her children's success. The children have reacted positively to their mother's more organized approach, and their school performance has shown marked improvement.

The previous cases are as summarized by the counsellors who worked with the parents. The problems presented by these cases were typical of those dealt with in the study.

From the parent's reports, it appears that change is facilitated by the support of other parents with similar problems and the guidance of a skilled professional worker who acts as teacher, safety valve, and conscience.

The goal of this research program is to find answers to the critical questions being asked by concerned parents. Today, answers appear closer than they did at the time the program was initiated in November, 1961. Under the auspices of PEEP, the researchers have demonstrated that parents are willing and able to modify their behavior with their child, and that the child responds by a modification of his own behavior.

APPENDIX B

Name_____

INSTRUCTIONS

This Rating Booklet consists of four pages of 16 words or phrases which are more or less characteristic of people. You are being asked now to describe your self. Please follow the five steps listed below.

For each page . . .

1. Read through all sixteen items.
2. Write the numbers of the two items most like your self in the two top dashes.
3. Write the numbers of the three next most like your self in the next three dashes.
4. Write the numbers of the two items most unlike your self in the lowest two dashes
5. Write the numbers of the three next most unlike your self in the three dashes next above.

In the sample below a rater has indicated that of the 16 items presented:

Two most like are:

1. Well thought of
2. Timid

Two least like are:

2. Likes responsibility
8. Jealous

Three next most like are:

11. Dependent
13. Wants everyone's love
14. Friendly

Three next least like are:

4. Able to care for self
7. Bitter
10. Spineless

Look at the example below and fill in the numbers in the proper spaces.

High
LIKE

____ ____

____ ____ ____

****

____ ____ ____

____ ____

UNLIKE
Low

Example

1.	Well thought of	9.	Timid
2.	Likes responsibility	10.	Spineless
3.	Self-respecting	11.	Dependent
4.	Able to care for self	12.	Will believe anyone
5.	Firm but just	13.	Wants everyone's love
6.	Outspoken	14.	Friendly
7.	Bitter	15.	Too lenient with others
8.	Jealous	16.	Too willing to give

You may feel that these items are badly chosen to describe your self. But you are not being asked for a complete description. You are being asked to choose the most like and most unlike out of each list of 16 items. Be sure to show a number for each dash. Complete each booklet before going on to the next.

Name_____

INSTRUCTIONS

This is a second Rating Booklet which is similar in all respects to the one which you just completed. But you are being asked now to describe your spouse.

Refer to the first page of instructions if you have any question about the five steps. It is most important that you follow the five steps. But remember that you are now being asked to describe your spouse. You are being asked to describe him as you see him now . . . and not as you would like him to be.

Again, you may feel that these items are badly chosen to describe your spouse. But you are not being asked for a complete description. You are being asked to choose the most like and the most unlike out of each list of 16 items. Be sure to show a number for each dash. Complete each booklet before going on to the next.

In the event that you and your spouse (your husband) are divorced, or, in the event that he is dead, or, in either case, you have remarried . . . please describe your present spouse . . . he with whom you and your child are presently living and interacting. If you have not remarried, please describe him as best you can remember him.

Name _____

INSTRUCTIONS

This is the third Rating Booklet. It is similar to the other two which you have just completed. But you are being asked now to describe your child - the fourth-grader who is a participant in this program.

Again, refer to the first page of instructions if you have any questions about the five steps. It is very important that you follow the five steps. But remember that you are now being asked to describe your child - your fourth-grader. You are being asked to describe your child as you see him now . . . and not as you would like him to be.

You may not feel that these items allow a very good description of your child. But you are not being asked for a complete description. You are being asked to choose the most like and the most unlike out of each list of 16 items. Be sure to show a number for each dash. Complete each booklet before going on to the next.

It may be that you have two fourth-graders participating in this program. If so, please ask us for another Rating Booklet.

Name_____

INSTRUCTIONS

This is the fourth Rating Booklet. It is similar to the other three which you have just completed. But you are asked now to describe your self-ideal. Think of the characteristics which you would like to have - you, yourself, personally - and choose from each list in the same way you have previously. But remember that you are now being asked to describe your self-ideal.

Refer to the first page of instructions if you have any questions . . . but surely by now you are familiar with the five steps.

Again, you are being asked for the best description of your self-ideal which this Rating Booklet allows: it cannot, of course, be a complete description . . . The most like and most unlike out of each list of 16 items. Be sure to show a number for each dash. Complete each booklet before going on to the next.

Note well that when you think of your self-ideal, there will be some characteristics which you would not like to have. List those low and unlike, just as you have with the other descriptions.

High
LIKE

___ ___

___ ___ ___

****

___ ___ ___

___ ___

UNLIKE
Low

1. Often admired
2. Boastful
3. Hard-boiled when necessary
4. Complaining
5. Apologetic
6. Clinging Vine
7. Wants everyone to like him
8. Over-sympathetic
9. Acts important
10. Self-reliant and assertive
11. Sarcastic
12. Can be skeptical
13. Self-punishing
14. Can let others help
15. Too easily influenced by friends
16. Tender and soft-hearted

High
LIKE

____ ____

____ ____ ____

****

____ ____ ____

____ ____

UNLIKE
Low

17. Expects everyone to admire him
18. Independent
19. Impatient with other's mistakes
20. Can complain if necessary
21. Easily embarrassed
22. Very respectful to authority
23. Will confide in anyone
24. Kind and reassuring
25. Tries to be successful
26. Proud and self-satisfied
27. Can be strict if necessary
28. Resents being bossed
29. Able to criticize self
30. Hardly every talks back
31. Eager to get along with others
32. Forgives anything

High
LIKE

___ ___

___ ___ ___

****

___ ___ ___

___ ___

UNLIKE
Low

33. Dominating

34. Business-like

35. Often unfriendly

36. Able to doubt others

37. Easily led

38. Very anxious to be approved of

39. Smothers with love

40. Enjoys taking care of others

41. Able to give orders

42. Selfish

43. Can be critical of others

44. Stubborn

45. Modest

46. Likes to be taken care of

47. Friendly all the time

48. Over-protective of others

High
LIKE

____ ____

____ ____ ____

****

____ ____ ____

____ ____

UNLIKE
Low

49. Good leader
50. Cold and unfeeling
51. Can be frank and honest
52. Hard to impress
53. Can be obedient
54. Lets others make decisions
55. Sociable and neighborly
56. Spoils people with kindness
57. Bossy
58. Likes to compete with others
59. Frequently angry
60. Sensitive
61. Obeys too willingly
62. Trusting and eager to please
63. Too fond of everyone
64. Gives freely of self

SCORE SHEET - ICL (Q-sort)

	Page 1 H	Page 1 L	Page 2 H	Page 2 L	VS		Page 3 H	Page 3 L	Page 4 H	Page 4 L	VS	VS (SUM)
P	1	9	25	17	____	A	41	33	49	57	____	____
B	10	2	18	26	____	C	34	42	58	50	____	____
D	3	11	27	19	____	E	43	35	51	59	____	____
F	12	4	20	28	____	G	36	44	60	52	____	____
H	5	13	29	21	____	I	45	37	53	61	____	____
J	14	6	22	30	____	K	38	46	62	54	____	____
L	7	15	31	23	____	M	47	39	55	63	____	____
N	16	8	24	32	____	O	40	48	64	56	____	____

N.B. VS = Variable Score

Variable Scores = Sum Scores as Indicated.

SD Score = Sum Scores entered in (H) Columns (4 in all).

Scoring Rationale: The two highest choices receive a weighted score of 5; the next three high choices, a weighted score of 4; the next three low choices receive a weighted score of 2; the two lowest choices, a weighted score of 1. All others receive a weighted score of 3. Variable scores' range : 8 - 40.

FACTOR LABELS - ICL

A. Able to give orders	P. Well thought of
B. Self-respecting	C. Able to take care of self
D. Can be strict if necessary	E. Can be frank and honest
F. Can complain if necessary	G. Able to doubt others
H. Able to criticize self	I. Can be obedient
J. Grateful	K. Appreciative
L. Cooperative	M. Friendly
N. Considerate	O. Helpful

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